MINNESOTA EXTENSION SERVICE
UNIVERSITY OF MINNESOTA

BU-6611-S
1995

Developing Environmental Citizens through 4-H Shooting Sports/Wildlife

MINNESOTA 4-H SHOOTING SPORTS/WILDLIFE STUDY PART II

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This study looks at the long-term effects of participation in the 4-H Shooting Sports/Wildlife Program after the young people have graduated from the program. Part I of Taking Aim at Youth Development (BU-6436-S, available from county extension offices in Minnesota or from the Distribution Center, Minnesota Extension Service, 1420 Eckles Avenue, St. Paul, MN 55108-6069) was published in 1994. It looked at the intended goals and objectives of the SS/W 4-H Program.

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This study was funded by Renewable Resources Extension Act/ U.S. Department of Agriculture. Support for the publication came from Steven Laursen, Ph.D., Assistant Dean for Outreach and Collegiate Program Leader, College of Natural Resources, University of Minnesota. Special thanks are extended to James Kitts, Ph.D., and Ira Adelman, Ph.D., both from the College of Natural Resources, University of Minnesota.

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SHOOTING SPORTS / WILDLIFE PART II

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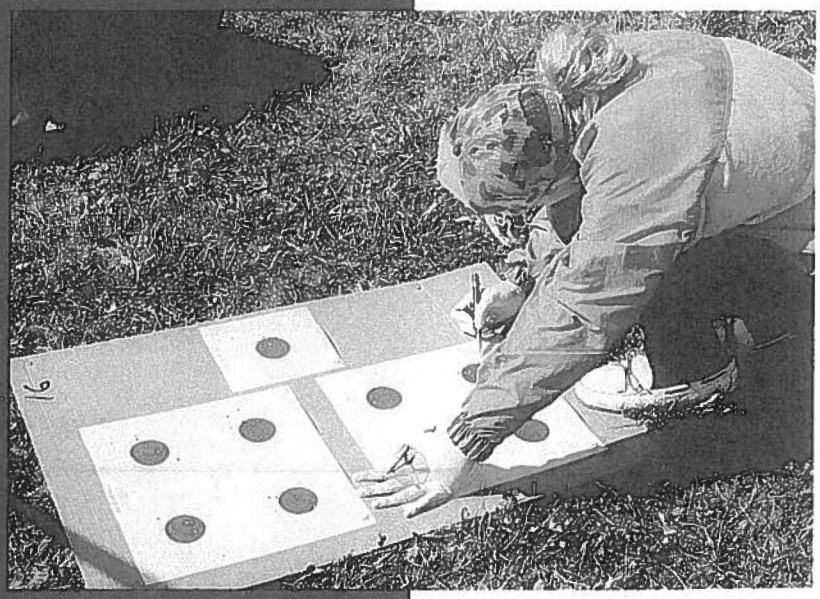
ABSTRACT

The number of youth involved in hunting and competitive shooting organizations has been declining. The Minnesota 4-H Shooting Sports/ Wildlife (SS/W) Program was designed to introduce youth to the recreational pursuit of shooting sports. As a 4-H program, a major emphasis is on facilitating participants' healthy development. 4-H recognizes three critical areas of life skill development which are incorporated into all programs:

- Competency life skills
- Coping life skills
- Contributory life skills

A second focus of the SS/W Program is to develop individuals who are environmentally knowledgeable and responsible. Environmental sensitivity and internal locus of control (defined as an individual's perception of whether he or she has the ability to bring about change in a particular situation through his or her own behavior) have been identified as good predictors of one's level of environmental responsibility.

This study examines the role of the Minnesota 4-H Shooting Sports/ Wildlife Program in the healthy development of positive life skills and in promoting responsible environmental behaviors. SS/W alumni and alumni of the 4-H Horsemanship Program were surveyed. Results from the two samples are analyzed to determine the perceived impact on life skill development and responsible environmental behaviors. The results are analyzed for differences between the groups on these measures. The authors hypothesize that both groups will demonstrate high levels of competency, coping, and contributory life skill development, but that the alumni of the Shooting Sports/Wildlife Program will report a greater degree of environmentally responsible behavior than the Horsemanship alumni.



STATEMENT OF THE PROBLEM

A report by the Carnegie Council on Adolescent Development (CCOAD, 1992) stressed the need for programs that promote healthy youth development. This report proposed a model for youth development, consisting of three cooperative elements: families, schools, and youth-serving agencies. To this point, the first two — families and schools — have been the focus of much attention and discussion. Recently, the third component — community youth-serving agencies — has received increased attention. These organizations play a central role in the adolescent's transition from youth to adulthood. Communities have a powerful, direct influence on the lives of youth. Through interaction with families and schools, communities possess a persuasive effect on the outcomes of children and youth (Benard, 1991). Hechinger (1992) noted that youth organizations rank second only to public schools in the number of young people they serve. Because these agencies reach so many youth, it is imperative that the programs instill positive values and beliefs in the young people they serve.

Many national youth organizations and grassroots organizations analyzed in the CCOAD (1992) study identified the enhancement of youth development as one of their most important agency functions. 4-H is one of the nation's largest organizations involved in serving the needs of youth. The 4-H program emphasizes the development of life skills. 4-H youth programs promote life skill development through experiential learning. Through their experiences, participants develop skills that will enable them to make responsible decisions, better understand their values, communicate, and get along with others (Boyd, Herring, & Briers, 1992).

Today's youth are faced with many challenges. Unemployment, teen pregnancy, chemical abuse, violence, and poverty are among the situations that adolescents confront daily (Boyd, Herring, & Briers, 1992; Wallach & Grossman, 1990). An increasing number of youth are regularly left at home unsupervised for extended periods of time (CCOAD, 1992). For these reasons it is important that youth-serving agencies, such as 4-H, assume an active role in providing programs that promote the development of the skills and abilities needed to assist youth during the difficult adolescent years.

In addition to learning life skills, youth need to become environmentally literate (Hines, Hungerford, & Tomera, 1986/87). In response to this, schools have begun to integrate environmental education topics into their curricula. Similarly, the news media now report more environmental issues, and numerous recently enacted public policies relate to the environment. Youth must be able to make responsible, informed decisions about environmental issues such as pollution, recycling, resource allocation, management, and development.

An underlying goal of most environmental education programs has been the development of responsible environmental behaviors (Roth, 1992; Stapp, 1971, as cited in Hines et al, 1986/87). Past studies have identified attributes associated with responsible

The 4-H Shooting Sports/Wildlife Project is one of a number of programs that addresses both healthy youth development and responsible environmental behavior.

environmental behavior. These include: knowledge of environmental issues, internal locus of control (defined as "an individual's perception of whether he or she has the ability to bring about change in a particular situation through his or her own behavior"), positive values related to the environment, environmental sensitivity, knowledge of and skills in environmental action strategies, and knowledge of ecological concepts (Sia, Hungerford, & Tomera, 1985/86; Hines et al, 1986/87; Hungerford & Volk, 1990; Newhouse, 1990; Simmons, 1991).

Many 4-H programs deal directly with environmental concerns. They are designed to instill positive attitudes and values toward the natural world in today's youth. One area of programming that focuses heavily on environmental topics is natural resources. A major program goal of 4-H Natural Resources is to "increase people's understanding and enjoyment of natural resources. We seek to promote responsible use of natural resources as a major contributor to 'quality of life' " (Reed & Hestwood, 1988).

The 4-H Shooting Sports/Wildlife Project is one of a number of programs that addresses both healthy youth development and responsible environmental behavior. In 1980, Minnesota became one of the first states in the nation to implement such a project. In its initial year, SS/W was offered to 500 youth in 13 counties. Since that time, enrollment has increased steadily. By 1994, SS/W was available in 50 counties with 4,200 youth participating throughout Minnesota. The project continues to grow today with the number of females involved in the project increasing at twice the rate of males.

Until 1992, no study examined the ability of the SS/W Project to achieve its intended outcomes. That year, an evaluation was conducted with youth who were currently involved in the project. Results indicated that, indeed, many objectives were being met and that the SS/W Project was a valuable and worthwhile experience (O'Brien & Carlson, 1993). Those results pointed out the need, however, for a follow-up study focusing on the long-term benefits of the SS/W Project. This study is a response to that need. It focuses on Minnesota 4-H SS/W Project alumni and their experiences and perceptions of the role SS/W played in their development of life skills and responsible environmental behaviors.

INTRODUCTION

Youth and guns — it's a combination that often makes the public uneasy in these violence-prone times. The Minnesota 4-H Shooting Sports/Wildlife (SS/W) Project, however, uses the sport of shooting to encourage positive youth development. The SS/W Project attempts to develop healthy adolescents who demonstrate and promote responsible environmental behaviors. Through SS/W involvement, youth have the opportunity to develop skills in marksmanship, safety, decision-making, and problem-solving. Participants also develop such positive behavior traits as personal responsibility, cooperation, and commitment.

The number of young people involved in competitive shooting organizations has been decreasing (Howard, 1987). At the same time, reports indicate that the numbers of youth who engage in hunting activities are also declining (Howard, 1987). Some in wildlife management and youth development believe that more youth projects are needed in these areas to spark interest and to provide young people with an opportunity to learn about outdoor activities. Tanner (1980) suggests that one of the strongest predictors of an adult hunting is having learned the skill as a youth. Youth who are interested in shooting competitively or in the sport of hunting need programs in which they can foster their skills and learn safety and responsibility.

The SS/W Project is also important because it teaches young people how to handle firearms and archery equipment safely and responsibly. Many youth have access to guns and use them regularly for hunting or competitive shooting. It is critical that they know how to handle and use them properly.

The Minnesota 4-H SS/W Project provides quality programs to youth interested in learning more about the lifelong recreational pursuit of shooting sports. Currently 4,200 Minnesota young men and women, ranging in age from 9 to 19, are enrolled in the project. The Minnesota 4-H SS/W Project introduces participants to the basic skills and safety techniques associated with archery, pistol, air rifle, BB gun, .22 rifle, shotgun, and muzzleloading. Throughout the program, the emphasis is on safety and the personal responsibility that is essential to the use of firearms and archery equipment.

The mission of the SS/W Project is to provide an opportunity for youth to experience and appreciate the recreational potential of shooting sports. The SS/W curriculum assists young people in personal development, helps establish a personal environmental ethic, and explores lifelong vocational and recreational activities (Howard, 1987). Specific project goals are to:

- encourage participation in natural resources and related natural science programs;
- develop leadership and citizenship;
- enhance the development of self-concept, character, and personal growth;
- practice safe and responsible use of firearms and archery equipment;
- develop positive relationships with adults and family members;
- develop an understanding of the principles of wildlife management;
- learn sportsmanship and ethical behavior;
- complement and enhance the impact of existing safety, shooting, and hunter education programs;
- appreciate shooting sports as a lifetime recreational pursuit or career.

These goals are accomplished through the use of first-hand experiential education methods and the development of individual skills and abilities.

A 1992 study indicated that the Minnesota 4-H SS/W Project was, in fact, accomplishing many of its stated objectives. The findings indicated that the project was functioning especially well in the areas of family involvement, teaching safety and responsibility, developing leadership and citizenship, and appreciating shooting sports as a lifetime recreational pursuit (O'Brien & Carlson, 1993). The results of the study also demonstrated the need for further work in the areas of developing critical thinking skills among youth and encouraging participation in natural resource- and natural science-related projects (O'Brien & Carlson, 1993). That study also recognized the need to examine the long-term potential benefits and outcomes of the SS/W Project. This investigation attempts to respond to that issue through a survey of Minnesota 4-H SS/W alumni.

RATIONALE FOR THE STUDY

Merely offering and implementing a program does not ensure its quality nor appropriateness. Evaluation is a central component of the programming process. Bennett (1988-89) defines evaluation as "a systematic method of judging the worth or value of an educational program." Evaluation should be done regularly for all types of programs. As a result of thorough program evaluations, a number of questions can be answered. These could include:

- Is the program meeting its stated goals and objectives?
- Are the most effective techniques being used to achieve these outcomes?
- Is the content of the program appropriate for the intended or actual audience?
- What impact is this program having on participants?
- What changes or modifications can be made to improve this program?

Evaluation results also serve a vital role in budgetary decision-making as it affects both allocation of personnel and facility resources and, ultimately, the survival or termination of a program.

With numerous programs attempting to reach similar goals while competing for resources, the worth and value of programs must be demonstrated. No study has provided an in-depth analysis of the potential long-term value of the Minnesota 4-H SS/W Project. This study was undertaken to document the long-term effects and benefits of that project. Specific areas of interest for this study focus on the attainment of life skills related to healthy youth development and the fostering of responsible environmental behaviors.

PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study is to examine the development of life skills and responsible environmental behaviors that may occur among 4-H alumni as a result of their participation in the SS/W Project or Horsemanship Project. A comparison of SS/W alumni and Horsemanship alumni will determine if differences exist between these two groups on self-reported measures of life skill development or responsible environmental behaviors.

The objectives of this study are to determine:

- The role of 4-H in the development of 1) competency, coping, and contributory life skills and 2) responsible environmental behaviors, all as reported by alumni,
- If significant differences exist between alumni of the SS/W Project and the Horsemanship Project in the self-reported development of 1) competency, coping, and contributory life skills and 2) respon sible environmental behaviors,
- If any significant differences exist within the SS/W alumni sample on measures of self-perceived development of life skills or respon sible environmental behaviors.

PRINCIPLES OF YOUTH DEVELOPMENT

Alarming statistics are reported daily that tell stories of abuse, teen pregnancy rates, or numbers of youth who have fallen victim to violent crimes committed by other youth (Wallach & Grossman, 1990). It has been estimated that 40% of an adolescent's time is discretionary, that is, unstructured time spent out of school and not devoted to personal care needs (CCOAD, 1992). Much of this discretionary time is unsupervised by an adult.

Community youth-serving agencies can seize the opportunity that this discretionary time provides to offer positive experiences for youth so that they may develop into successful contributing members of society. The adults who are employed by these agencies often are central figures in the lives of today's youth. They frequently serve as a confidants, mentors, and positive role models for youth who have had difficulties establishing strong relationships with adults.

Calloway (1991) notes that parents typically interact with their children an average of only 17 hours per week and quality interaction is even less frequent, averaging 15 minutes per day. Quality conversation between parents and children is estimated to take place for only about 30 seconds per day. Studies have shown that those youth who establish a positive relationship with a significant adult in their lives are likely to experience smoother transitions into adulthood than youth who have limited interactions and relationships with adults (Masten, Best, & Garmezy, 1990).

Many youth-serving organizations provide programs that promote healthy, positive youth development. These organizations typically share common fundamental elements that guide their programs, such as "a commitment to the effective development of young people, reliance on small group activities under the guidance of committed adults, and the engagement of their participants in the process of cooperative learning" (Hechinger, 1992).

COMPETENCY LIFE SKILL DEVELOPMENT

Competency life skills enable an individual to provide sufficient means for the necessities and conveniences of everyday life. These abilities relate to one's physical, mental, emotional, and social health and safety. One of the specific objectives formulated for this area is to "develop and practice responsible skills related to the environment" (Waguespack, 1988). Other factors included in competency skills are things such as the exploration of careers, expansion of societal roles, and achievement of satisfaction through success (Howard, 1987).

Objectives specific to the 4-H SS/W Project that fall into this category would include encouraging participation in natural resources and related natural science programs, practicing the safe responsible use of firearms and archery equipment, developing an understanding of the principles of wildlife management, and appreciating shooting sports as a lifetime recreational pursuit or career.

COPING LIFE SKILL DEVELOPMENT

Coping life skills involve those skills that give one the ability to deal directly with stressful situations (Miller & Bowen, 1993). Incorporated into this area are competencies such as the development of positive self-concept, social skills, sense of control, and positive attitudes toward the future.

Objectives specific to the 4-H SS/W Project that fall into this category of life skills include enhancing the development of self-concept, character, and personal growth; developing positive relationships with adults and family members; learning sportsmanship and ethical behavior; and appreciating shooting sports as a lifetime recreational pursuit.

CONTRIBUTORY LIFE SKILL DEVELOPMENT

The third area of life skill development recognized by 4-H is that of contributory life skills. These are identified as skills that "enable people to contribute their knowledge, skills, and attitudes to the development of a healthy social, economical, and moral society" (Waguespack, 1988). Howard (1987) places the focus of this area on the development and use of leadership abilities. Community involvement is another central aspect of contributory life skills.

This area of life skill development is also addressed by the SS/W Project. Development of leadership and citizenship constitutes a large part of what 4-H defines as contributory life skills.

The overall findings of these studies suggest that 4-H projects are most effective in developing life skills of youth who are in the middle-to-late stages of adolescence. Miller and Bowen (1993) found no significant differences between eighth grade 4-H'ers and non-4-H'ers on any of the life skill areas, while an earlier study of eleventh and twelfth graders (Waguespack, 1988) found significant differences in many of these areas. Numerous 4-H program implications can be drawn from this. First, it suggests that 4-H should offer programs that are attractive to youth who are in the later stages of adolescent development. National 4-H enrollment numbers show a significant decline in youth enrollment after about age 12. The SS/W Project grew as a direct result of the need to attract and retain older youth (O'Brien & Carlson, 1993).

A second important finding is that females reportedly perceive their life skill development as a result of 4-H more positively than male participants. The SS/W Project, though not specifically designed for males, has approximately three times as many male members as female members (O'Brien & Carlson, 1993). As a result of this high level of male involvement in the SS/W Project, there is great potential to promote higher levels of positive life skill development among male 4-H'ers.

The scope of this study will be limited to the exploration of an individual's environmental sensitivity and locus of control and the role they serve in the prediction of responsible environmental behaviors.

RESPONSIBLE ENVIRONMENTAL BEHAVIORS

Many environmental education programs point to the development of responsible environmental behaviors as a primary goal (Sia et al, 1985/86). A number of variables are involved in the prediction of responsible environmental behaviors (Asch & Shore, 1975; Borden & Schettino, 1979, Larson, Forrest, & Bostian, 1981; Sia et al, 1985/86, Hines et al, 1986/87; Marcinkowski, 1988; Disinger & Roth, 1992). It is the interaction of numerous attributes such as knowledge of environmental issues, locus of control, environmental values, environmental sensitivity, and knowledge of and skills in environmental action strategies that best predict one's level of environmental responsibility (Sia et al, 1985/86; Hines et al, 1986/87). Other factors such as androgyny, economic orientation, and verbal commitment to act have also been investigated but appear to be weaker predictors.

Hines and colleagues (1986/87) proposed a model of responsible environmental behavior. This model identified the components of action skills, knowledge of action strategies, knowledge of issues, and personality factors such as attitudes, locus of control, and personal responsibility as important in the prediction of responsible environmental behaviors. In his model, these factors combine with an individual's intention to act and situational factors to influence behavior.

The concept of environmental literacy has been closely associated with responsible environmental behaviors. Some have referred to the ultimate goal of environmental education as being the development of an environmentally literate individual. Disagreement continues, however, over a universally accepted definition of responsible environmental behavior or environmental literacy.

In the work of Roth (1992) and Hines et al (1986/87) a number of similarities clearly exist between the proposed models. These shared factors include environmental sensitivity, knowledge, attitudes, and locus of control. The scope of this study will be limited to the exploration of an individual's environmental sensitivity and locus of control and the role they serve in the prediction of responsible environmental behaviors.

ENVIRONMENTAL SENSITIVITY

Environmental sensitivity has been defined as an empathic perspective toward the environment (Hungerford & Volk, 1990). This perspective involves the belief that it is essential for humans to live in ecological harmony with the environment (Ramsey & Hungerford, 1989). Environmental sensitivity is difficult to foster in traditional school settings. Instead, it is commonly looked at as a "function of an individual's contact with the outdoors in relatively pristine environments either alone or with close personal friends or relatives" (Hungerford & Volk, 1990, p. 14). Individuals who show the greatest level of environmental sensitivity typically report greater and longer involvement in outdoor activities such as hunting and fishing, often beginning at a young age.

By attracting youth to the SS/W Project through their interest in shooting and/or hunting, it is possible to expose them to experiences and activities that occur in the natural environment. From this, it is hoped that youth will develop a greater sense of appreciation and stewardship for the environment. Once these feelings are discovered, youth may become increasingly motivated and, in turn, behave in a more environmentally responsible manner.

LOCUS OF CONTROL

Locus of control may be defined as "an individual's perception of whether he or she has the ability to bring about change in a particular situation through his or her own behavior" (Peyton & Miller, 1980). An individual is typically referred to as having either an internal or an external locus of control. Rotter (1966; as cited in Smith-Sebasto, 1992) describes an internal locus of control as the perception by a subject that events or outcomes are the direct result of some action of his or her own. Conversely, an external locus of control refers to the perception that events or outcomes are not affected by personal actions, but rather by fate, luck, chance, or powerful others. These studies indicate that individuals with an internal locus of control were more likely to have engaged in responsible environmental behaviors than individuals with an external locus of control.

One's locus of control may also be looked at in terms of individual versus group locus of control. A subject's group locus of control refers to the belief of an individual that as a member of a group, the actions of the group play a significant role in promoting change.

Though difficult to formally "teach" an individual to have an internal locus of control, research indicates that this trait may be developed and strengthened through teaching citizenship. Once individuals have had experiences where they have attempted to bring about some type of change and have been successful in their attempts, their resulting sense of internal control may be strengthened (Hungerford & Volk, 1990).

METHODS

SUBJECTS

This study focuses on alumni of either the Minnesota 4-H SS/W Project or the Horsemanship Project. Potential subjects were identified through one of two methods. Letters went to all SS/W leaders in Minnesota explaining the proposed study and asking them to provide names and addresses for three to five individuals who were once members of their project. They were asked to give names of a representative sample of SS/W members, not just those who did the best or were members the longest. This approach generated approximately 220 names. All 4-H County Extension Educators in Minnesota received letters requesting that they identify two or three individuals who had been enrolled in the SS/W Project in the past and were no longer active members. All Horsemanship alumni were identified through this second process. Educators were again asked to choose names at random. This method generated an additional 60 SS/W alumni and 80 Horsemanship alumni.

INSTRUMENTS

The survey instrument in this study consisted of three parts (Appendix). Part 1 gathered demographic data and specific information in relationship to general 4-H involvement.

Part 2 was an adapted version of the Life Skills Development Inventory (LSDI) developed by Waguespack (1988). The LSDI focuses separately on the areas of competency, coping, and contributory life skills. Each of these areas is assessed through a seven-point Likert scale. In this study, the scale was reduced to five questions measuring competency, coping, and contributory life skills independently for a 15-question tool assessing one's overall perceived development of life skills.

The third part examined responsible environmental behaviors both through the analysis of involvement in self-reported behaviors and identified predictor variables. These predictor variables include environmental sensitivity and individual and group locus of control. Each of these variables was assessed independently using separate five-point Likert scales. Subjects were asked to indicate the extent to which they perceived they could resolve an issue, first as an individual and then as part of a group.

The measurement technique for environmental sensitivity also uses a five-point Likert scale to assess the level of participation in various activities both currently and as a youth. The instrument looks at the influence of identified roles models as well as indicators of the amount of time spent alone in outdoor settings.

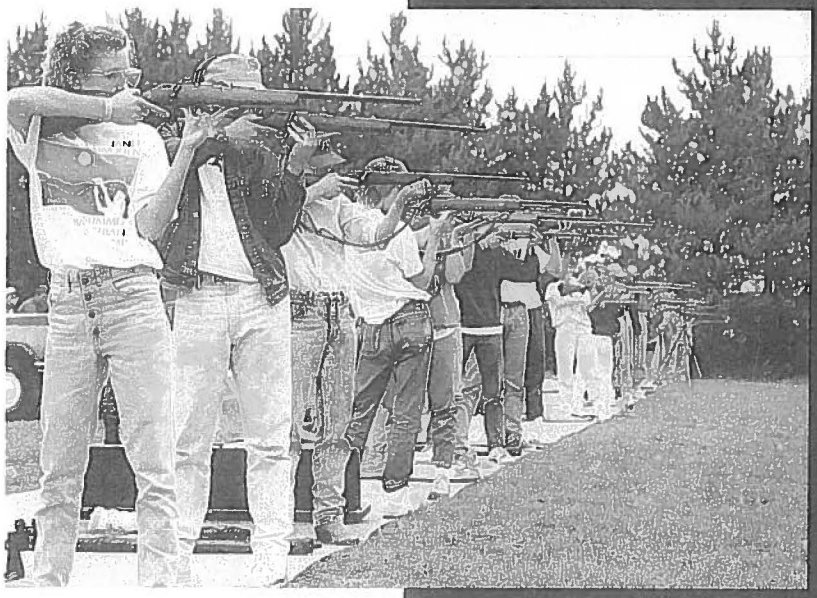
A pilot test of the survey instrument was administered to a group of students in an undergraduate level recreation class as well as to members of the student chapter for The Wildlife Society at the University of Minnesota.

PROCEDURES

Survey questionnaires were mailed to subjects whose names and addresses were obtained through the alumni search. Reminder cards were distributed at 2 weeks and 6 weeks for those who had not yet responded, with a second survey tool being sent 4 weeks following the initial mailing.

A total of 263 surveys were mailed out to alumni from the SS/W Project. In addition to this, 78 Horsemanship surveys were sent out to project alumni.

DATA ANALYSIS



The resultant data from this survey were analyzed through the use of statistical methods. Frequencies, means, correlations, and standard deviations were obtained. These were used to search for any significant differences between the SS/W alumni and the Horsemanship alumni in the areas of life skill development and responsible environmental behaviors. These areas were further broken down into measures of competency life skills, coping life skills, contributory life skills, individual locus of control, group locus of control, overt environmental behaviors, and environmental sensitivity to detect any significant differences that may exist between the SS/W and Horsemanship alumni groups. Further analysis was conducted on the SS/W data to identify any differences within the SS/W alumni sample. Attention was given to the number of years involved in SS/W, the level of involvement in SS/W, number of years since last involved in SS/W, and number of other 4-H projects in which subjects participated.

RESULTS

DEMOGRAPHICS

A total of 263 surveys were mailed out to alumni from the Shooting Sports/Wildlife Project. Twelve surveys were returned as undeliverable. A total of 132 completed surveys were returned by SS/W alumni for a response rate of 52.6%. Of those surveys returned, 30 could not be used because subjects reported that they were under 18 years of age. This left 102 usable surveys from the SS/W alumni.

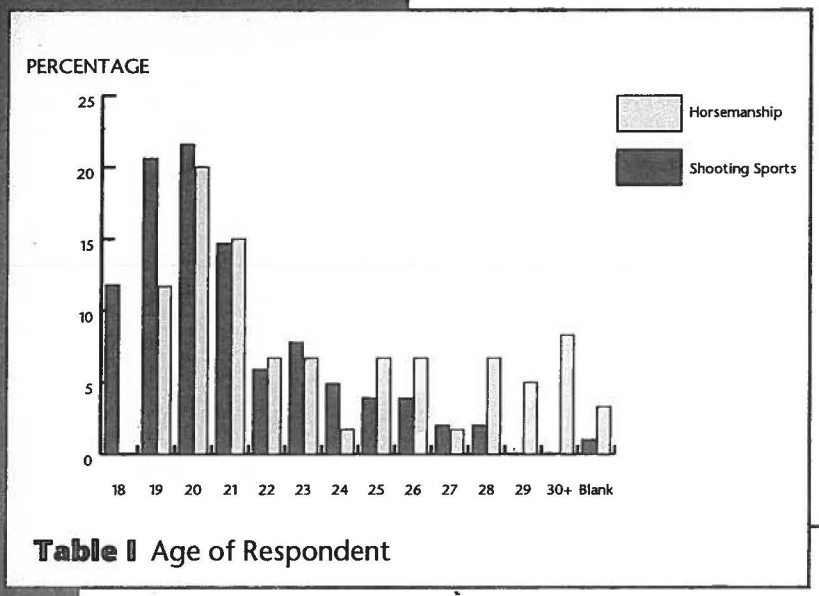


Table I Age of Respondent

The response from the Horsemanship sample was somewhat higher. A total of 78 Horsemanship surveys were mailed to alumni. All of these were delivered, and 60 were completed and usable surveys for a response rate of 76.9%.

The SS/W alumni tended to be somewhat younger than the Horsemanship Project alumni (Table I). The SS/W sample exhibited a mean age of 20.9 years old, with a range of 18 - 28 years of age. The Horsemanship sample had a mean age of 23.5 years with a range of 19 - 37 years old.

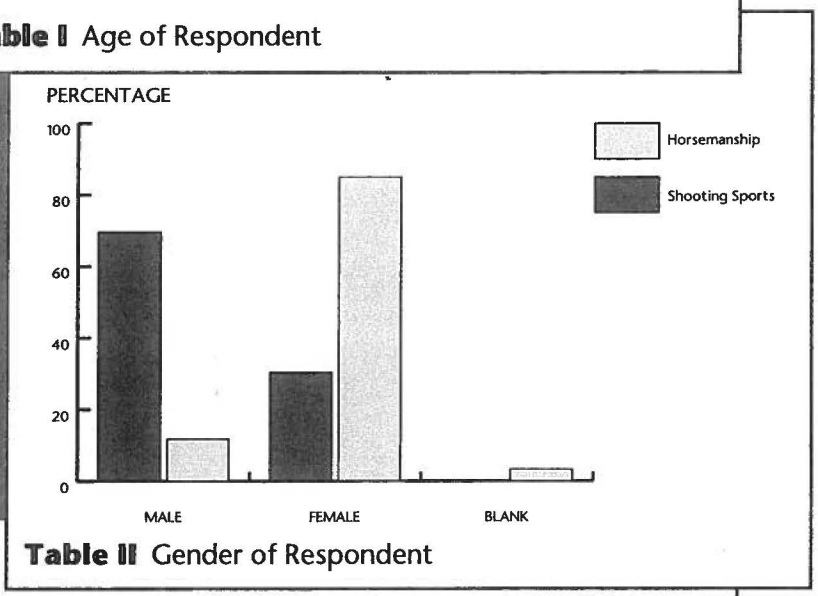


Table II Gender of Respondent

Significant gender differences were found among the two sample groups (Table II). The SS/W alumni group was 69.6% male and 30.4% female. In contrast, 85.0% of the Horsemanship alumni were female with only 11.7% male. (Some respondents did not indicate their gender.) However, these numbers are representative of the larger population of 4-H members in each respective project.

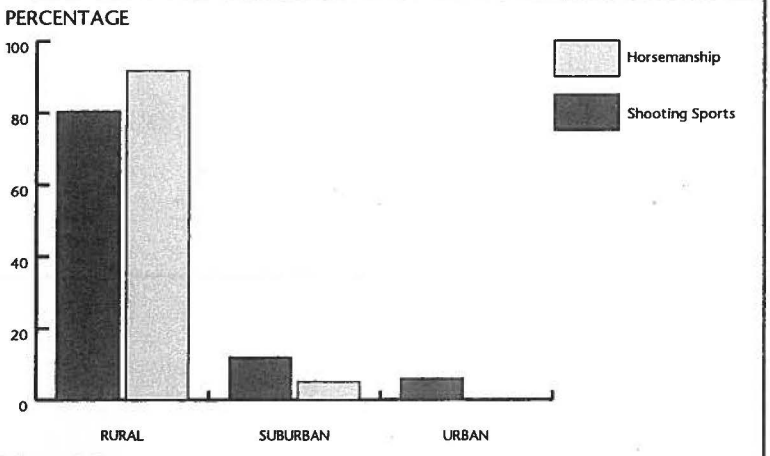


Table III Location of Home

A majority of respondents from both groups indicated that they were from rural areas (Table III). Of the SS/W sample, 80.4% were from rural locations while 91.7% of the Horsemanship alumni resided in rural communities. Suburban homes accounted for 11.8% of the SS/W sample and 5.0% of the Horsemanship sample. Only 5.9% of the SS/W alumni were from urban areas. None of the Horsemanship alumni lived in an urban environment.

4-H PARTICIPATION

There are similarities between the alumni of the SS/W Project and those of the Horsemanship Project. For example, SS/W subjects reported being involved in 4-H for an average of 8.9 years while the Horsemanship alumni averaged 9.1 years of 4-H involvement (Table IV). Alumni of the SS/W Project, however, had only averaged 5.1 years in the project while Horsemanship alumni averaged 7.6 years. The SS/W Project is a much newer project than the Horsemanship Project. Some alumni may not have had the opportunity to participate for more than five years. It is also possible that many individuals do not become involved in SS/W until they are somewhat older and thus have fewer years of 4-H eligibility remaining.

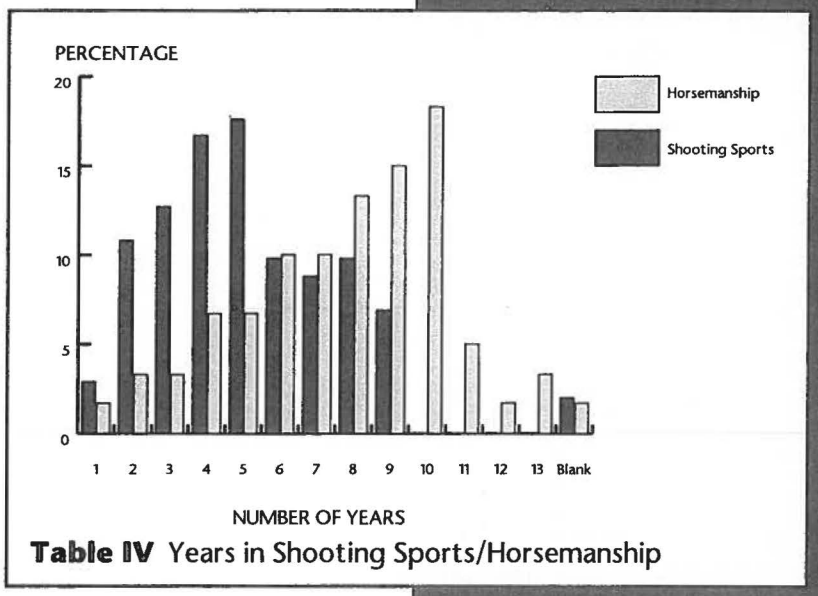


Table IV Years in Shooting Sports/Horsemanship

Both groups appear to participate in approximately the same number of 4-H projects. SS/W subjects were typically involved in 3.4 other projects while Horsemanship respondents averaged 4.1.

Both groups participated in club, county, and state level competition at high levels. Similarly, family involvement was high for both groups during their years of participation.

Among the SS/W alumni, 64.7% of the respondents participated with their fathers, 32.4% with their mothers, 46.1% with a brother(s), and 24.5% with a sister(s) (Table V). This family component appeared even stronger among the Horsemanship sample. Of those surveyed, 78.3% participated with their mothers, 70.0% with their fathers, 61.7% with a sister(s), and 36.7% with a brother(s). The strength of family participation in the Horsemanship Project may be attributed to the large investment needed to meet the financial commitment involved in raising a horse. The SS/W Project, however, appears to be somewhat more individualized. Family members may participate side-by-side, but the effort remains that of the individual.

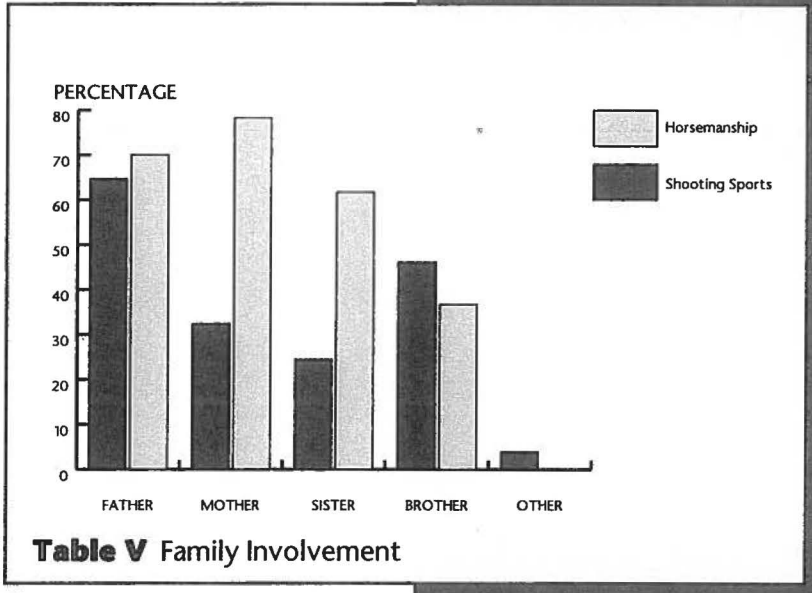


Table V Family Involvement

Of those alumni who completed the survey, 16.7% of the SS/W sample and 36.7% of the Horsemanship sample indicated that they were still actively involved in 4-H. Of those, 64.7% of the SS/W sample and 31.8% of the Horsemanship sample were currently leading 4-H projects, 35.3% of the SS/W group and 59.1% of the Horsemanship alumni were acting as assistant leaders, and 13.6% of the Horsemanship group had children who were 4-H members at the time the survey was conducted.

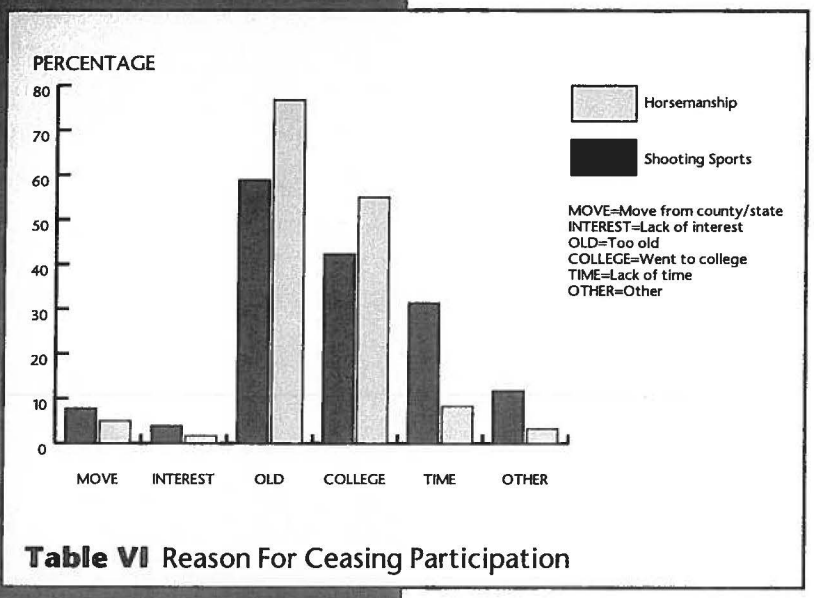


Table VI Reason For Ceasing Participation

Both of the samples indicated nearly identical reasons for dropping out of 4-H projects (Table VI). The top three reasons for both the SS/W and the Horsemanship alumni were: "too old" (58.8% and 76.7% respectively), "went to college" (42.2% and 55.0%), and "lack of time" (31.4% and 8.3%). Less common responses included "moving from county or state" (7.8% and 5.0%), and "lack of interest" (3.9% and 1.7%). Fewer than 2.0% of respondents reported "not what I expected" or "no longer challenging."

YOUTH DEVELOPMENT

This survey did not reveal substantial differences between alumni of the SS/W Project and the Horsemanship Project in the area of youth development. The SS/W sample scored an average of 92.32 out of a possible 105 on the Life Skill Development Scale, while the Horsemanship sample averaged 94.92. This difference was not statistically significant.

Upon further breakdown of the data, the results continued to have no statistical significance in areas of competency life skills, coping life skills, and contributory life skills. In competency life skills, the SS/W alumni exhibited a mean score of 31.58 and the Horsemanship alumni recorded a mean of 32.6. The two groups scored similarly on coping life skills with a mean of 31.16 and 31.73 respectively. The results were also nearly identical on contributory life skills scale with SS/W alumni scoring an average of 29.59 and Horsemanship alumni averaging 30.58.

Only two questions of the entire 15-item scale elicited statistically significant differences between the two groups. In both these instances the Horsemanship sample scored significantly higher than the SS/W alumni group. Out of a possible seven for the competency life skill of "I am eager to learn," the SS/W scored a mean of 6.29 while the Horsemanship alumni sample scored a mean of 6.57. The only other item to have elicited significant results was the contributory life skill that read "Getting involved in community affairs is important." On this item, the SS/W alumni scored an average of 5.58 and the Horsemanship sample recorded an average of 5.95. This difference may be due to the age differences found between the samples. The mean age of the SS/W sample was somewhat younger than that of the Horsemanship sample, and as a result it may be that many of the SS/W subjects are currently attending college or have recently left home and are residing in a new place. As such, they may have not yet developed the sense of community that often comes from living in an area for an extended period of time. The results of the Life Skill Development Scale indicate that both the SS/W Project and the Horsemanship Project appear to be successful in developing skills deemed critical to promoting healthy youth development. For both groups none of the 15 items received mean scores below a five or "Slightly agree." The top four items and last six items were ranked nearly identical between the alumni from the two groups. The top scoring life skills for the SS/W alumni were "I learn best when I learn by doing," "I can cooperate and work in a group," "I realize there is often more than one answer to a problem" and "I feel responsible for my actions." The results for the Horsemanship alumni sample were very

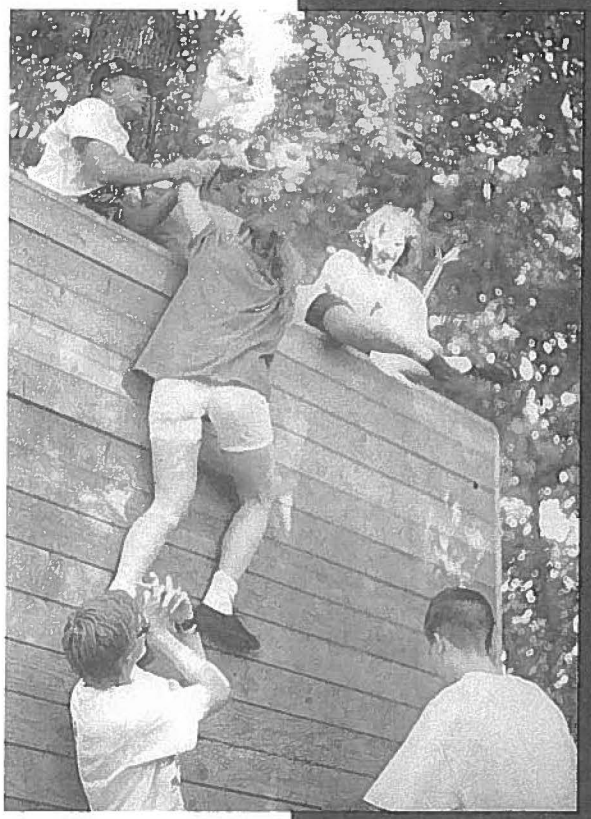
similar, the only difference occurring in the order of the top four life skills. The Horsemanship sample, like the SS/W sample, scored highest on the skill "I learn best when I learn by doing." The next three highest were "I realize there is often more than one answer to a problem," "I feel responsible for my actions," and "I can cooperate and work in a group." The lowest scoring items for both of the alumni samples were "I can deal with my emotions in a positive way," "Getting involved in community affairs is important," and "I am involved in working to improve my community."

"I participate in activities to preserve wildlife habitats or wetlands."

These results support past studies that have indicated that experiential learning is a highly effective way to teach skills and concepts to youth. Results also suggest that both projects promote problem solving, cooperation, teamwork, and responsibility as evidenced by the consistently high scores on those scale items.

LOCUS OF CONTROL

No statistically significant differences were indicated on either the individual or group locus of control scales between the SS/W alumni and the Horsemanship alumni. The SS/W sample scored an average of 3.37 of a possible 5 on the individual locus of control item. The Horsemanship alumni scored an average of 3.55. On the group locus of control item, the SS/W alumni had a mean score of 4.05 and the Horsemanship alumni had a mean of 4.08. Both the SS/W and the Horsemanship alumni samples believed that they had more control over the outcome of situations when acting as a member of a group. As individuals, respondents in both groups felt they had a moderate degree of influence over the solution of environmental issues. However, as members of a group, both samples felt that they would have a considerable amount of influence over such solutions.



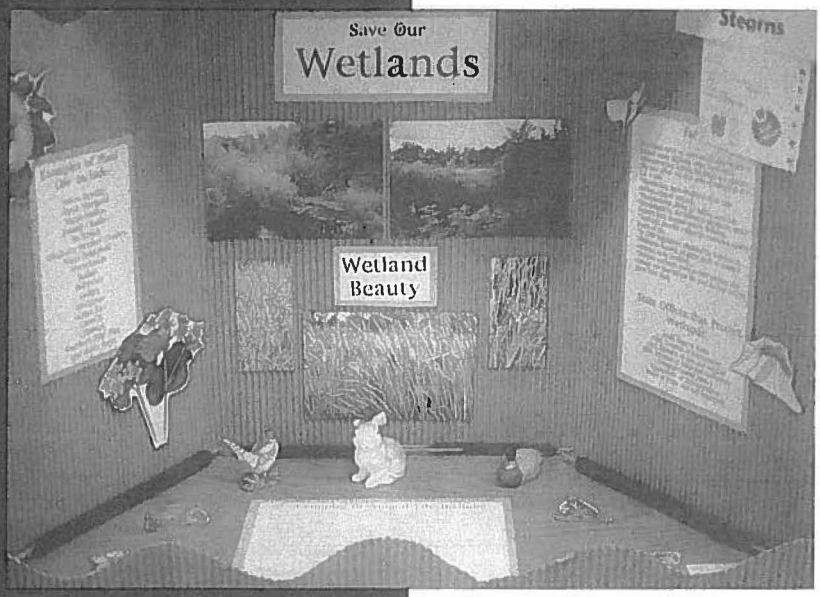
ENVIRONMENTAL BEHAVIORS

The findings of this survey indicated virtually no statistically significant differences between the SS/W alumni and the Horsemanship alumni in the area of environmental behaviors. Overall the mean score for the SS/W alumni group on the scale of environmental behaviors was 22.94 out of a possible 40, and 22.40 for the Horsemanship alumni sample. The most common behavior respondents of both samples reported was recycling in the home. Out of a possible five ("to a great extent") the SS/W sample scored this item an average of 4.05, with 34.3% marking "to a great extent."

The Horsemanship sample scored an average of 3.95 on this item, with 28.3% of the sample indicating that they participated in this behavior to a great extent. The only item that was found to be statistically significant was "I participate in activities to preserve wildlife habitats or wetlands." This item received a mean score of 3.38 by the SS/W sample and 2.92 by the Horsemanship sample. Nearly one-quarter (23.5%) of the SS/W sample indicated that they participated in this behavior "to a great extent." Both groups scored lowest on the items "I have signed petitions which support environmental action," "I have

attended public hearings in support of an environmental cause," and "I write letters to public officials which encourage action on issues that concern the environment."

At least 50.0% of both groups indicated that they had attended public hearings "to no extent" while only one-third (33.3%) of both groups had written letters to public officials regarding environmental issues. It is important to note that these results might have been much different if the survey were given to current members of these projects. Recently the emphasis on sharing opinions on environmental concerns has increased as has the awareness of issues that impact the environment.



ENVIRONMENTAL SENSITIVITY

The environmental sensitivity scale findings were not statistically significant for differences between SS/W Project alumni and Horsemanship Project alumni. The mean environmental sensitivity score for SS/W alumni was 56.74 and 56.22 for the Horsemanship sample.

A number of individual items within this scale did elicit statistically significant results between the two groups. Not surprisingly, the SS/W sample reported participating in hunting or fishing activities to a greater extent both as a youth and currently. As youths, the SS/W alumni indicated that they took part in such activities "to a considerable extent" while the Horsemanship alumni only indicated that they did so "to a moderate extent." These participation levels were consistent with the SS/W sample scoring current hunting and fishing participation at 3.75 and the Horsemanship sample scoring a 2.95.

The SS/W alumni scored significantly lower on their participation in current vacations, however. The SS/W sample scored a mean of 3.54 on this item while the Horsemanship sample scored a mean of 3.95. The SS/W group also scored lower in time spent alone in the outdoors as a youth, averaging only 3.77 while the Horsemanship sample averaged 4.17. The differences found between the groups on time spent alone in the outdoors may be due largely to the nature of the activities examined in this study. Individuals who hunted as youth were required to do so with a parent or adult present. Thus, a great deal of time was often spent in the outdoors with parents, older siblings, and relatives rather than alone, as may have been the case with the Horsemanship alumni.

There was general agreement on individuals and activities that posed the most influential role models in environmental sensitivity. The SS/W sample indicated that 4-H had the strongest influence with family being the second strongest. The Horsemanship sample indicated that family was the biggest influence, and 4-H was second.

RESULTS WITHIN THE SS/W SAMPLE

In addition to exploring differences between alumni of the SS/W Project and the Horsemanship Project, this study also examined differences within the SS/W sample itself. A number of significant differences were identified within the SS/W alumni. Due to the small sample sizes of urban and suburban residents, however, this study was unable to examine differences between rural and nonrural individuals.

Environmental sensitivity increased with parental involvement.

GENDER

No statistically significant differences were found within the SS/W Project based on gender. This finding is consistent with the earlier Part I study of the SS/W Project, which indicated that females participate in much the same way as males and, therefore, the benefits that a youth can receive from such a program are not gender-specific (O'Brien & Carlson, 1993).

NUMBER OF PROJECTS

The number of projects that a subject had been involved in had a significant relationship with individual locus of control. This difference appears to act in a negative manner, however. Those who were involved in four to seven 4-H project areas scored lower than those who were involved in one to three project areas.

A greater number of differences were found between individuals who were involved in four to seven additional projects and those who were involved in more than eight 4-H projects (Table VII).

SCALE	MEAN SCORES NUMBERS OF PROJECTS		
	0-3 n=22	4-7 n=50	8+ n=27
Competency	31.00	31.22	32.67
Coping	31.00	30.66	32.30
Contributory	29.41	28.62	31.33*
Youth Dev. Total	91.41	90.50	96.29*
ILOC	3.59	3.18*	3.56
GLOC	4.09	3.94	4.22
Env. Behavior	22.41	22.06	24.67*
Env. Sensitivity	58.41	55.10	57.81

* Significant results at .05 level

Table VII Differences Between Numbers of Projects

Differences were found in the areas of environmental behaviors, contributory life skills, and the overall Life Skill Development Scale. Mean environmental behavior score for the sample jumped from 22.06 for those in four to seven projects to 24.67 for those involved in more than eight additional projects. The area of contributory life skills increased from 28.62 to 31.33 among the two samples. Overall Life Skill Development scores also grew from 90.50 to 96.30 as the level of involvement increased.

YEARS OF INVOLVEMENT

The number of years in 4-H SS/W appear to have an impact on one's development of environmental sensitivity as suggested by the data. For instance, a significant difference in environmental sensitiv ity was found between alumni who had participated in the SS/W Program for 4 to 6 years and those involved for more than 7 years. The former group had a mean environmental sensitivity score of 54.87 while the latter scored 61.57.

FAMILY INVOLVEMENT

Respondents who participated in the SS/W Project without either parent on a regular basis had a mean environmental sensitivity score of 53.73 while alumni who had attended regularly with both parents had a mean score of 59.17, a statistically significant difference.

LEVEL OF ENVIRONMENTAL BEHAVIOR

A subject's reported level of environmental behavior also had a significant impact upon level of environmental sensitivity. Individuals who scored high on the environmental behaviors scale (26-40) had a mean environmental sensitivity score of 64.48 while those indicating a moderate level of involvement in environmental behaviors (19-25) had an environmental sensitivity mean of 56.45. Simi larly, respondents with moderate levels of environmental behaviors outscored those with low levels of environmental behaviors on measures of environmental sensitivity.

SCALE	MEAN SCORES LEVEL OF ENVIRONMENTAL BEHAVIOR		
	LOW (0-18) n=23	MOD. (19-25) n=46	HIGH (26-40) n=33
Competency	30.13	31.09	33.27
Coping	29.00	30.87	33.06
Contributory	27.43	29.33	31.45
Youth Dev. Total	86.57	91.28	99.30*
ILOC	3.04	3.26*	3.76*
GLOC	3.74	3.89	4.48*
Env. Sensitivity	46.17	56.45**	64.48**

* .05 level of significance ** .01 level of significance

Table VIII Differences Between Levels of Envir. Behavior

Within the SS/W alumni sample, the reported level of environmental behavior appears to affect other measures examined in the study (Table VIII). This is especially noticeable between individuals who indicated moderate involvement in environmental behaviors and those who were highly involved in responsible environmental behaviors. These two groups differed significantly in individual and group locus of control, total youth development, and environmental sensitivity. The group of moderately involved individuals recorded a mean of 3.26 on individual locus of control, a 3.89 on group locus of control, and a 91.28 on the overall Life Skill Development Scale. In contrast, those who reported high involvement in environmental behaviors scored a mean of 3.76 for individual locus of control, a 4.48 on group locus of control, and a 99.30 on the overall Life Skill Development Scale. All of these differences were statistically significant.

SCALE	MEAN SCORES LEVEL OF ENVIRONMENTAL SENSITIVITY		
	LOW (0-48) n=23	MOD. (49-64) n=57	HIGH (65+) n=27
Competency	29.43	31.79 *	33.00*
Coping	28.13	31.60*	32.89*
Contributory	27.17	29.81*	31.22*
Youth Dev. Total	84.74	93.19*	97.11*
ILOC	2.91	3.46*	3.59
GLOC	3.61	4.13*	4.26
Env. Behavior	17.43	22.87**	27.78**

* .05 level of significance ** .01 level of significance

Table IX Differences Between Levels of Envir. Sensitivity

LEVEL OF ENVIRONMENTAL SENSITIVITY

This survey suggests that level of environmental sensitivity may be the most significant variable among those examined (Table IX). Statistically significant differences, based upon level of environmental sensitivity, were found in environmental behaviors; contributory, competency, and coping life skills; overall youth development; and group and individual locus of control.

IN CONCLUSION

4-H SS/W Project and the Horsemanship Project have been successful in developing life skills.

SUMMARY

This study attempted to determine effectiveness of the Minnesota 4-H Shooting Sports/Wildlife Project in developing life skills and promoting responsible environmental behaviors. Specifically the research was designed to assess the long-term benefits by targeting alumni of the program as subjects. Five objectives were developed to be used as a framework to guide the study.

The first objective was, "To determine the role of 4-H in the development of competency, coping, and contributory life skills as reported by alumni." Based on the data obtained, from the Life Skill Development Scale, 4-H alumni report that they have developed competency, coping, and contributory life skills. The overall mean score was 6.29, indicating that respondents generally agree that they have developed the skill in question.

With a mean score of 6.41, competency life skills appear to be the best developed. However, items on the coping life skills scale also scored relatively high with a mean of 6.29. Contributory life skills reported the lowest average of the three types of life skills with a score of 6.07. Based on these data it can be concluded that both the 4-H SS/W Project and the Horsemanship Project have been successful in developing life skills.

The study's second objective was to determine the role of 4-H in the promotion of responsible environmental behaviors. Responsible environmental behavior was measured through three instruments. The first scale examined a subject's locus of control both as an individual and as a member of a group. The results of this scale imply that alumni of both programs have a somewhat internal locus of control. As an individual the mean score was 3.47, which falls between the responses "to a moderate extent" and "to a considerable extent." An even higher sense of internal control was found when acting as a member of a group, scoring a mean of 4.08.

The second part of this section was used to measure subjects' actual environmental behavior. On this scale, scores ranged from very high for certain behaviors to very low for others. Subjects reported that they participated to "a considerable extent" or more in recycling, telling others how they feel about the natural world and purchasing products based on their packaging. Subjects also indicated that they participated to "almost no extent" in behaviors such as writing letters to government officials and attending public hearings relating to environmental concerns. Overall on the environmental behaviors scale, the mean score was 2.84, indicating that subjects partake in these behaviors to a moderate extent.

A third area of responsible environmental behavior is environmental sensitivity. On this scale subjects scored relatively high with an overall mean of 3.78 out of a possible 5.0. As youth, respondents were involved to a considerable extent in family vacations/outings in the

Family members and the 4-H program contributed significantly to their perceived level of environmental sensitivity.

outdoors and hiking or walking. Even as adults those surveyed continue to participate in such activities although to a somewhat lesser extent than they did as youth. Subjects also indicated that they had spent a considerable amount of time alone in the outdoors as youth. Family members and the 4-H program contributed significantly to their perceived level of environmental sensitivity, according to the data.

The third objective of this study was to determine if differences existed between the Horsemanship alumni and the SS/W alumni in youth development. As expected, few significant differences were found between these groups based on scores obtained from the Life Skills Development Scale. No significant differences were found on the overall scale, nor on the subscales of competency, coping, and contributory life skills. When the statements are examined individually, only two items elicited significant differences between the two alumni groups. The first of these is the statements "I am eager to learn," and the second is "Getting involved in community affairs is important." The Horsemanship alumni sample scored significantly higher on both of these items. However, both the Horsemanship and the SS/W alumni scored a mean of at least 5.5 on each of these statements indicating that both groups tended to agree with the item.

The fourth research objective was to determine if differences existed between the alumni groups on measures of responsible environmental behavior. As with the youth development scale, only minimal differences were found. No significant differences were found on scores for locus of control, environmental behaviors, or environmental sensitivity. On the environmental behaviors questionnaire, only one item — participation in activities to preserve wildlife habitats or wetlands — resulted in significant differences between the two groups. The SS/W alumni scored this item significantly higher than the Horsemanship alumni.

On the environmental sensitivity scale, four items elicited significant differences between the two samples. The SS/W alumni, both as youth and currently, hunt and fish more frequently than their Horsemanship counterparts. Horsemanship alumni, however, were more likely to take family vacations and/or outings in outdoor settings. Horsemanship alumni spent more time alone outdoors as youth than did SS/W alumni.

The final research objective for this study was to examine what, if any, differences existed within the SS/W alumni sample on measures of both youth development and responsible environmental behavior. Numerous differences were found among 4-H members based on the number of years involved in SS/W, the number of other 4-H projects they had participated in, family involvement in SS/W, and other variables.

The number of projects that an individual had participated in appeared to have a negative relationship with individual locus of control. This may be related to being more accustomed to working as a member of a group rather than independently. Positive relationships were also found with the variables of contributory life skills, environmental behaviors, and overall youth development as measured by the LSDI. When examining years involved in the SS/W Project, individuals who had participated longer scored significantly higher on the environmental sensitivity scale.

Family involvement had a positive effect on 4-H members' levels of environmental sensitivity. Subjects who participated with at least two other family members scored significantly higher than those who participated alone.

Levels of environmental behavior and environmental sensitivity appear to be closely related. Significant increases in one corresponded to increases in the other. A higher level of environmental behavior had a positive relationship with scores on individual and group locus of control and overall youth development scales.

Level of environmental sensitivity had a significant impact on the qualities measured in the survey. As level of environmental sensitivity increased, corresponding increases occurred on the competency, coping, and contributory life skill development scale, the overall youth development measure, both individual and group locus of control, and on measure of environmental behavior.

4-H promotes healthy youth development and instills a feeling of responsibility toward the environment.

CONCLUSIONS

Several conclusions can be drawn about the Minnesota 4-H SS/W Project. First, there appear to be few significant differences in youth development and responsible environmental behavior between SS/W and Horsemanship alumni.

Second, although no significant differences existed between the samples, it does appear that both projects are doing an adequate job of promoting healthy youth development and instilling a feeling of responsibility toward the environment in their members. Scores for both groups on the LSDI and on the measures of responsible environmental behavior were all generally high, indicating that the respondents felt they had attained these qualities.

Third, environmental sensitivity plays an important role in youth development and overall environmental behavior. Within the SS/W sample, increased levels of environmental sensitivity were related to increases in other factors such as youth development, locus of control, and environmental behaviors. Clearly this finding has important implications for the SS/W Project and other 4-H Natural Resources programs.

RECOMMENDATIONS

Minnesota 4-H provides numerous benefits to participants, specifically in the area of Shooting Sports/Wildlife and Horsemanship. To ensure continued maximum benefits through the programs, several recommendations are offered.

First, surveys such as this are important because they monitor the quality and outcomes of these programs. Future studies should include a non-4-H comparison group to determine if the 4-H experience is one that is uniquely beneficial in developing these types of skills.

Second, developing and enhancing environmental sensitivity should become a primary focus of programs such as SS/W and other Natural Resources programs. One potential way of doing this may be through member retention so that the young people may continue to be exposed to the outdoors. In addition, project leaders need to explore other ways to develop high levels of environmental sensitivity. Further research is needed in this area to determine which experiences and methods are most effective in promoting environmental sensitivity among today's youth.

The authors recommend that 4-H projects emphasize environmental behaviors. Programs such as SS/W provide youth the opportunity to experience many environmental behaviors. These experiences can empower youth and develop ownership and responsibility among those involved. Writing to government officials about environmental concerns, constructing petitions, soliciting signatures, and signing petitions relating to environmental topics are behaviors that should be encouraged. Likewise, awareness of recycling and the waste stream implications of consumer packaging should continue to be reinforced in 4-H projects, emphasizing the impact that such things can have on wildlife areas.

In addition, the networks of both leaders and youth that result from 4-H participation provide opportunities for adults and young people to share ideas, information, resources, and projects with others from around the state and the nation. These networks, whether formal or informal, encourage partnerships among the state's leaders and youth.

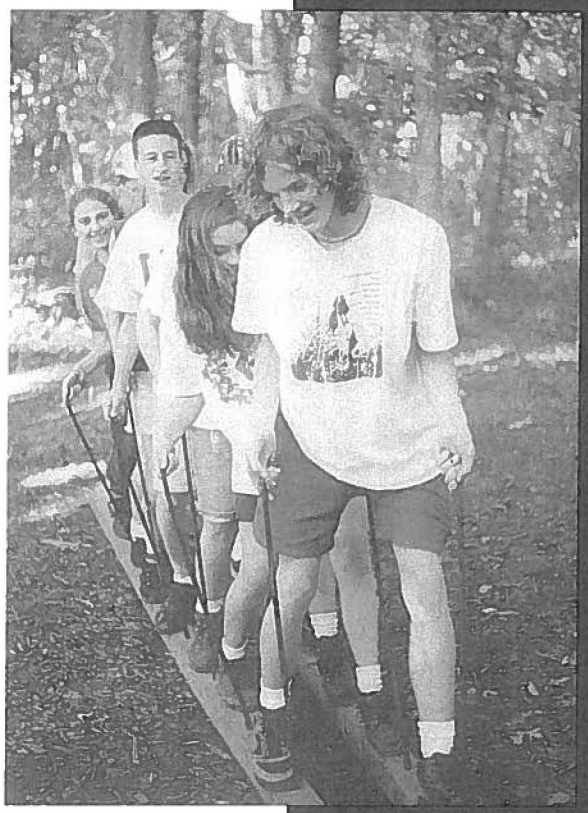
In conclusion, the authors recommend conducting a study to explore methods of retaining leaders once their children have graduated from the program. These individuals should be encouraged to share their knowledge and experiences with youth. These experienced leaders also need to know that their time and energy are well spent, valuable, and greatly appreciated.

OPERATIONAL DEFINITIONS

The following operationally defined terms were used throughout this paper.

Youth development — the process through which adolescents actively seek, and are assisted, to meet their basic needs and build their individual assets or competencies (Pittman & Wright as cited in CCOAD, 1989).

Life skills — abilities that are useful for living everyday life. These include thinking, feeling, and doing skills (Waguespack, 1988).



Competency skills — skills that develop abilities enabling one to provide means for the necessities and conveniences of everyday life (Waguespack, 1988). They are learned abilities related to physical, mental, emotional, and social health and safety.

Coping skills — skills that give one the ability to deal directly with stressful situations (Waguespack, 1988). These include the development of positive self-concept, social skills, sense of control, and positive attitudes toward the future.

Contributory skills — skills that enable people to contribute knowledge and attitudes to the development of a healthy social, economical, and moral society (Waguespack, 1988). This area includes skills such as leadership and citizenship.

Responsible environmental behavior — a learned response or action that results from the interaction of numerous variables such as knowledge, attitudes, values, locus of control, and environmental sensitivity (Sia et al, 1985/86).

Locus of control — an individual's perception of whether he or she has the ability to bring about change through his or her own behavior (Hines et al, 1986/87).

Environmental sensitivity — an empathic perspective toward the environment (Hungerford & Volk, 1990).

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APPENDIX
Survey Instruments

County _____ Rural Suburban Urban (Circle one)
Age _____ Gender M F (Circle one)

How many years did you participate in 4-H as a youth? _____

How many years did you participate in Shooting Sports/Wildlife as a youth? _____

What was your last year of involvement as a member of 4-H Shooting Sports? 19__

As a member of the 4-H Shooting Sports/Wildlife Project Area which of the following did you participate in? (Check all that apply)

_____ Club Activities
_____ County Fair
_____ State Fair
_____ State Shoot
_____ National Competition
_____ National 4-H Congress

Which disciplines were you involved in as a member of 4-H Shooting Sports/Wildlife?

_____ Archery
_____ BB Gun
_____ Muzzleloading
_____ Shotgun
_____ Other (Please specify) _____
_____ .22
_____ Pistol
_____ Air Rifle
_____ Wildlife

What other 4-H project areas were you involved in?

Please mark (with a check) the reason(s) why you stopped participating in 4-H Shooting Sports/ Wildlife?

_____ Moved from county/state
_____ Lack of interest
_____ Not what I expected
_____ No longer challenging
_____ Other (please specify) _____
_____ Too old
_____ Went to college
_____ Lack of time
_____ Other 4-H program

What family members participated in 4-H Shooting Sports/Wildlife with you?

_____ Dad
_____ Mom
_____ Other (please specify) _____
_____ Brother
_____ Sister

Are you currently involved in 4-H? YES NO (circle one)
If so in what way(s)? Leader Agent Child attends Other Circle one)

PLEASE RESPOND TO STATEMENTS 1-15 BY CIRCLING THE NUMBER THAT BEST REPRESENTS HOW STRONGLY YOU AGREE OR DISAGREE WITH THE STATEMENT. PLEASE USE THE FOLLOWING SCALE.

1 STRONGLY DISAGREE
2 DISAGREE
3 SLIGHTLY DISAGREE
4 NEITHER AGREE NOR DISAGREE
5 SLIGHTLY AGREE
6 AGREE
7 STRONGLY AGREE

1. I set goals that I want to reach.	1	2	3	4	5	5	7
2. I am involved in working to improve my community.	1	2	3	4	5	6	7
3. I can cooperate and work in a group.	1	2	3	4	5	6	7
4. I can explain difficult ideas to others to help them understand.	1	2	3	4	5	6	7
5. Getting involved in community affairs is important.	1	2	3	4	5	6	7
6. I am eager to learn.	1	2	3	4	5	6	7
7. I can deal with my emotions in a positive way.	1	2	3	4	5	6	7
8. I do my part to keep the environment clean.	1	2	3	4	5	6	7
9. I learn best when I learn by doing.	1	2	3	4	5	6	7
10. I have developed positive values toward the environment.	1	2	3	4	5	6	7
11. I am sure of my abilities.	1	2	3	4	5	6	7
12. I feel responsible for my actions.	1	2	3	4	5	6	7
13. I have hobbies which teach me new things.	1	2	3	4	5	6	7
14. I am willing to listen to the ideas of others.	1	2	3	4	5	6	7
15. I realize there is often more than one answer to a problem.	1	2	3	4	5	6	7

To what extent do you believe that you personally, working as an individual (on your own), can influence the solution of environmental issues?

1 To no extent
2 To almost no extent
3 To a moderate extent
4 To a considerable extent
5 To a great extent

To what extent do you believe that you personally, working with others, can influence the solution of environmental issues?

1 To no extent
2 To almost no extent
3 To a moderate extent
4 To a considerable extent
5 To a great extent

PLEASE USE THE FOLLOWING SCALE FOR ALL STATEMENTS ON THIS PAGE.
1 TO NO EXTENT
2 TO ALMOST NO EXTENT
3 TO A MODERATE EXTENT
4 TO A CONSIDERABLE EXTENT
5 TO A GREAT EXTENT

FOR STATEMENTS 1-8 PLEASE CIRCLE THE NUMBER THAT BEST REPRESENTS TO WHAT EXTENT YOU PARTICIPATE IN EACH OF THE BEHAVIORS LISTED BELOW.

1.	I recycle in my home.	1	2	3	4	5
2.	I tell others how I feel about the natural world.	1	2	3	4	5
3.	I purchase products because they are packaged in reusable, returnable, or recyclable containers or packages.	1	2	3	4	5
4.	I participate in activities to preserve wildlife habitats or wetlands.	1	2	3	4	5
5.	I have signed petitions which support environmental action.	1	2	3	4	5
6.	I am aware of the environmental views of candidates for election.	1	2	3	4	5
7.	I have attended public hearings in support of an environmental cause.	1	2	3	4	5
8.	I write letters to public officials which encourage action on issues that concern the environment.	1	2	3	4	5

PLEASE USE THE ABOVE SCALE TO RESPOND TO THE FOLLOWING STATEMENTS.

1. During your youth (through high school), to what extent did you participate in outdoor experiences such as:

A. Family vacations and/or outings in an outdoor setting?	1	2	3	4	5
B. Hunting and/or fishing?	1	2	3	4	5
C. Hiking and/or walking?	1	2	3	4	5
D. Involvement in youth organization or group camping?	1	2	3	4	5
E. Other (Please specify) _____	1	2	3	4	5

2. To what extent do you currently participate in outdoor experiences such as:

A. Family vacations and/or outings in an outdoor setting?	1	2	3	4	5
B. Hunting and/or fishing?	1	2	3	4	5
C. Hiking and/or walking?	1	2	3	4	5
D. Involvement in youth organization or group camping?	1	2	3	4	5
E. Other (Please specify) _____	1	2	3	4	5

3. To what extent did you spend your time alone outdoors as a youth (prior to age 18)? 1 2 3 4 5

4. If you feel that you have a degree of environmental sensitivity, to what extent did one or more of the following contribute to this?

A. Family member(s)	1	2	3	4	5
B. Teacher(s)	1	2	3	4	5
C. Friend(s)	1	2	3	4	5
D. 4-H Program(s)	1	2	3	4	5
E. Other adult(s): specify role _____	1	2	3	4	5
F. An author or book (reading)	1	2	3	4	5

In which of the following organizations are you a member?

_____ National Rifle Association
_____ Pheasants Forever
_____ Conservation Club
_____ MN Waterfowl Association
_____ Other (please specify) _____
_____ MN Deer Hunters Association
_____ Ducks Unlimited
_____ Local Sportsman's Club
_____ None

Estimate how much you spend yearly on membership fees and contributions to the above organizations.

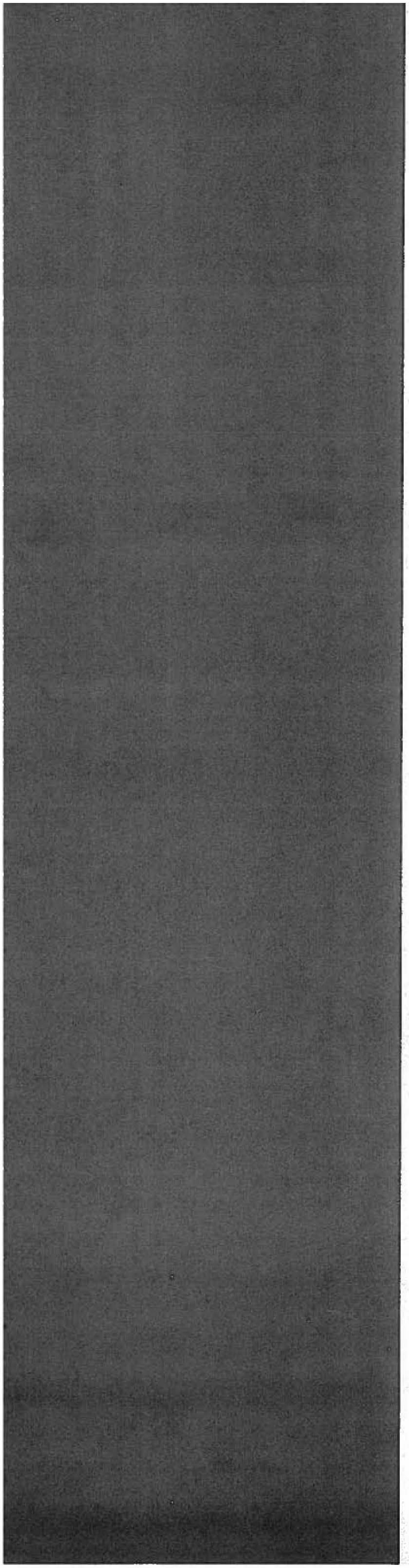
_____ Less than $50
_____ $50 to $100
_____ $100 to $200
_____ More than $200

How many publications do you receive each month that are shooting, hunting, or conservation related?

_____ 0
_____ 1-2
_____ 3-4
_____ 5 or more

Please say a few words about the impact of the 4-H Shooting Sports/Wildlife Program on your development of skills such as decision-making, leadership, cooperation, and responsibility etc..

Please say a few words about the role that the 4-H Shooting Sports/Wildlife Program had on influencing your personal feelings toward the environment today.



For information about the subject matter of this publication, contact the Center for 4-H Youth Development (612) 625-9700.

This publication was produced by the Educational Development System, Minnesota Extension Service.

Printed on recycled paper with 10% postconsumer waste.